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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PHILIP VICTOR HARMAN

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Appeal 2008-2596  
Application 09/586,869  
Technology Center 2600

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Decided: September 17, 2008

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Before JOSEPH F. RUGGIERO, MAHSHID D. SAADAT,  
and ROBERT E. NAPPI, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1-3, 5-14, 18, 23, 27-33, 43, and 44. Claims 15-17, 24-26, and 36-42 have been canceled, claims 45-51 have been

allowed and claims 4, 19-22, 34, and 35 have been objected to for being dependent upon a rejected base claim. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

## STATEMENT OF THE CASE

Appellant invented a method of producing a depth map for use in the conversion of two dimensional (2D) images into stereoscopic images (Spec. 1-2). An understanding of the invention can be derived from a reading of independent claim 1, which is reproduced as follows:

1. A method of producing a depth map comprising the steps of:
  - identifying at least one object within a 2D image without using distance measurement data;
  - allocating an identifying tag to the at least one object;
  - allocating a depth tag to the at least one object;
  - determining and defining an outline for the at least one object;
  - and
  - encoding said identifying tag, said depth tag and said outline, of said at least one object to produce a depth map.

The Examiner relies on the following prior art references:

Nourbakhsh	US 5,793,900	Aug. 11, 1998 (filed Dec. 29, 1995)
Meek	US 6,029,173	Feb. 22, 2000 (filed Nov. 26, 1997)
Eleftheriadis	US 6,055,330	Apr. 25, 2000 (filed Oct. 9, 1996)
Matsugu	US 6,167,167	Dec. 26, 2000

Kawabata	US 6,370,262 B1	(filed Jul. 2, 1997) Apr. 9, 2002 (filed Nov. 2, 1995)
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The rejections as presented by the Examiner are as follows:

Claims 1-3, 13, 14, 27, 32, 33, 43, and 44 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kawabata.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawabata and Matsugu.

Claims 6-10 and 28-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawabata and Meek.

Claims 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawabata and Nourbakhsh.

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawabata and Eleftheriadis.

Claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawabata.<sup>1</sup>

Rather than repeat the arguments here, we make reference to the Briefs and the Answer for the respective positions of Appellant and the Examiner.

## ISSUES

1. Under 35 U.S.C § 102(e), with respect to the appealed claims 1-3, 13, 14, 27, 32, 33, 43, and 44, does Kawabata anticipate the claimed subject matter by teaching all of the claimed limitations?

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<sup>1</sup> Official Notice was taken by the Examiner to establish that producing images at a lower resolution was well known in the art.

2. Under 35 U.S.C § 103(a), with respect to the appealed claims 5-12, 18, 23, and 28-31, would the ordinarily skilled artisan have found it obvious to modify Kawabata alone in view of the Examiner's Official Notice or in combination with Matsugu, Meek, Nourbakhsh, or Eleftheriadis to render the claimed invention unpatentable?

### FINDINGS OF FACT

The following findings of fact (FF) are relevant to the issues involved in the appeal.

1. Kawabata relates to an "object information processing apparatus having a function to divide an object depending upon brightness information and/or a function to divide an object depending upon distance information, in extraction of object information, and also to a remote apparatus arranged to transmit signals through wire or radio to or from the information processing apparatus." (Col. 1, ll. 8-14).
2. As depicted in Figures 2A-2E, Kawabata discloses "employing correspondence with the contrast (density) information of the original picture of the FIG. 2A, a relation between the shape of object and the distance can be obtained by distance calculations of '6x4+24,' as shown in Figure 2C, without performing distance calculations of '30x20+600'." (Col. 6, ll. 25-30).
3. Distances are obtained for fewer blocks in total, as shown in Figure 2B, and the data regarding the distances of the respective blocks are stored in the memory portion 12. (Col. 6, ll. 31-37).
4. "[T]he memory portion 14 of Kawabata stores image information with strong contrast in the above image of 30x20 in a positional

relation with the pixels. Namely, in the case of the image of Fig. 2A, image portions with strong contrast are shown as pixel portions in a contour part of an image O. Information regarding the pixel portions is stored as emphasized at positions corresponding to the pixel portions in the memory portion 14.” (Col. 6, ll. 37-44).

5. Kawabata further teaches that for the “2 m [blocks] in Figure 2B, it is determined from the data in the memory portion 14 which positions in the blocks correspond to the pixel portions in the above contour part. As a result, an image at the position in Figure 2C is determined to be of 2 m, and the data, which is the distance of the object (2 m in the above case), and an address (a specific position of the object O on the X and Y axes) in the image (the image of 30x20) of the object, are input into a memory portion 15.” (Col. 6, ll. 44-53).

## PRINCIPLES OF LAW

### *1. Anticipation*

A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. *See In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

Anticipation of a claim requires a finding that the claim at issue “reads on” a prior art reference. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999) (quoting *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 781 (Fed. Cir. 1985)).

## 2. *Obviousness*

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977, 987-988 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (*citing In re Kahn*, 441 F.3d at 988 (Fed. Cir. 2006)).

## ANALYSIS

### 1. *35 U.S.C. § 102 Rejection*

Appellant disagrees with the Examiner's findings in *Kawabata* with respect to "identifying at least one object within a 2D image without using distance measurement data" followed by "allocating a depth tag to the at least one object," as recited in claims 1 and 27 (App. Br. 7-10). Appellant further argues that *Kawabata* requires determining the distance information (e.g., depth data) before an object is even identified (App. Br. 7). Appellant relies on the "Brief Description of the Drawing" section regarding Figures 2A to 2E in the reference to show that *Kawabata* provides for "*extraction of an object from distance measurement data and luminance information*" (App. Br. 7-8) (emphasis original). In support of such argument, Appellant asserts that the meaning of the claim term "identifying," as understood by the skilled artisan, involves identifying or determining the outline or shape of the object (App. Br. 8).

The Examiner points to column 6, lines 37-42 of Kawabata and asserts that determining image portions with strong contrast relates to pixel portions in a contour part of the image used to identify the object without using distance measurement data (Ans. 11). The Examiner further argues that Kawabata determines the contour portions based on contrast data, and not distance data, as explained in the above mentioned portion of the reference (*id.*).

Based on our review of Kawabata and the breadth of the recited language in claims 1 and 27, we disagree with Appellant's argument that the claimed "identifying at least one object within a 2D image" cannot be reasonably read on determining the contour part of the image using the contrast information of the image pixels described in Kawabata. The claims merely require identifying the object without specifying what particular aspect(s) of the image should be identified. We also disagree with Appellant's argument (Reply Br. 4) that identifying the object involves more than determining its contour since we find that the claim includes no specific degree of identification as to its shape or outline. Therefore, consistent with Appellant's Specification (§ [0032]), using characteristics such as object size, color, brightness, and focus, among others, Kawabata obtains the brightness or contrast information of an image to determine the contour and to identify the object (FF 1-2).

Additionally, Kawabata obtains such information in a positional relation with the pixels where the contrast is strong and stores such information in a memory (FF 3-4). The position of pixels corresponding to the contour blocks as well as the depth information of each block is determined or "tagged" (FF 5). Therefore, as argued by the Examiner (Ans.



11), while the distance information for each block is determined, the identification of the image is based on contrast data, and not on the distance data. As such, Kawabata does identify the object without using distance measurement data, as recited in claims 1 and 27.

In view of the above discussion, since all of the claimed limitations are present in the disclosure of Kawabata, the Examiner's 35 U.S.C. § 102(e) rejection of independent claims 1 and 27, as well as dependent claims 2, 3, 13, 14, 32, 33, 43, and 44 which are not separately argued by Appellant (App. Br. 10), is sustained.

## *2. 35 U.S.C. § 103 Rejection*

With respect to the rejection of the remaining claims, Appellant provides no other argument in addition to the arguments made with respect to the claimed feature of "identifying at least one object within a 2D image without using distance measurement data" (App. Br. 10-12). Therefore, as we found, *supra*, Appellant's arguments to be ineffective to overcome the prima facie case as set forth by the Examiner, we find no error in the Examiner's position with respect to the obviousness rejections of the remaining claims. For the above reasons, since it is our opinion that the Examiner has established a prima facie case of obviousness based on Kawabata alone, its combination with Matsugu, Meek, Nourbakhsh, or Eleftheriadis, or in view of the Examiner's Official Notice, we sustain the 35 U.S.C. § 103(a) rejection of claims 5-12, 18, 23, and 28-31.

## CONCLUSION

On the record before us, Appellant has failed to show that the Examiner erred in rejecting claims 1-3, 5-14, 18, 23, 27-33, 43, and 44. In

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view of our analysis above, we affirm the Examiner's decision rejecting claims 1-3, 13, 14, 27, 32, 33, 43, and 44 under 35 U.S.C. § 102(e) and rejecting claims 5-12, 18, 23, and 28-31 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

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AFFIRMED

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